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NAVAL POSTGRADUATE SCHOOL
Monterey, California



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THESIS

VOLUNTARY SEPARATION AND EARLY RETIREMENT
PLANS: A SURVEY OF NAVAL POSTGRADUATE
SCHOOL LIEUTENANT COMMANDERS

by

Jennifer P. Ford

June 1992

Thesis Advisor:

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Voluntary Separation and Early Retirement
Plans: A Survey of Naval Postgraduate
School Lieutenant Commanders

by

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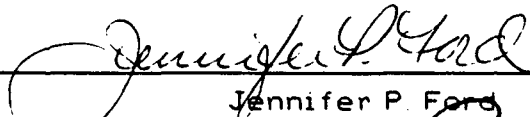
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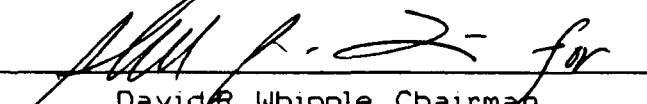
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ABSTRACT

Lieutenant commanders (LCDRs) attending the Naval Postgraduate School were surveyed on their perceptions of three voluntary separation plans, Special Separation Benefit (SSB), Voluntary Separation Incentive (VSI) and 15-year early retirement. Additionally, several factors were studied to identify their relationship to the likelihood of accepting one of the plans. Survey results indicate that: 1) LCDRs are a career oriented group who plan to remain in the Navy at least until eligible for a 20-year retirement, 2) there is little probability that LCDRs would accept SSB or VSI if given the choice, 3) the majority of LCDRs (60 percent) expressed some likelihood of accepting 15-year early retirement if given the opportunity, 4) full retirement benefits and lifetime monthly income were the most important factors considered when ranking the three plans in order of their likelihood of acceptance, and 5) availability of medical care was rated as the most important benefit in their acceptance decision.

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I. INTRODUCTION

Early retirement programs and severance packages are being used extensively in organizations throughout the United States in order to reduce workforce size and personnel costs. Large companies such as IBM, AT&T, General Motors and Chrysler, state and local governments, and the federal civil service have announced plans for reducing their organization size through early retirement or severance plans.

The military is no exception to this trend of making organizations "lean and mean." Congress recently approved a package of early-out incentives for service members in overpopulated skills who agree to leave active duty prior to retirement eligibility. However, this package was developed using a 100,000-per-year reduction of the active duty forces from 1991 to 1995, a number most services could accommodate through normal attrition, with only minimal involuntary separations. Although it is not clear how severe additional force reductions will be, most agree that active duty forces will face far greater reductions than originally planned.

Early reports on acceptance of the voluntary separation incentives have baffled financial experts. Service members who want to leave are choosing the lump sum benefit, special separation benefit (SSB), over the annuity, voluntary

separation incentive (VSI), "by margins of six to one in the Air Force and Marine Corps, and four to one in the Army and Navy." [Ref. 1:p. 3] This is despite the fact that the present value of VSI's annual payments is higher than that of the lump sum benefit. Additionally, those opting for the lump sum stand to lose 28 percent of the benefit immediately to income taxes, while those choosing to receive the annuity are only taxed on payments as they are received annually. This suggests there may be more factors than just financial ones influencing this decision to accept a separation incentive.

If the military drawdown must be accelerated, which it is becoming more evident that it will, the present early-out plans may not provide adequate incentives to meet a larger force reduction (particularly of service members with over 15 years of service). The chairman of the Senate Armed Services Committee, Senator Sam Nunn, has recently proposed a 15-year retirement plan to ease the pain of the drawdown. This further complicates the decision-making process of individuals already faced with the choice of accepting VSI or SSB--should they hold out for a 15-year retirement plan, or will they end up being involuntarily separated through a reduction in force (RIF) if they delay?

A. PURPOSE

The purpose of this study is to survey and analyze lieutenant commanders' perceptions concerning voluntary separation plans and factors that influence the decision to accept a separation incentive, either Voluntary Separation Incentive (VSI), Special Separation Benefit (SSB) or 15-year retirement. Service members who eventually decide to accept one of these incentives and leave the military must base their decision on some factors that support that decision. It would be helpful to know what these factors are as well as how they affect the decision to accept an incentive. This research will attempt to identify factors that affect this decision process and explore their interactions.

Specifically, this thesis attempts to study the decision process to accept a separation incentive using Navy lieutenant commanders attending the Naval Postgraduate School. Multivariate analysis and correlation of variables identified based on previous research as well as original assumptions are used to model the separation incentive decision against measures of career intent, monetary separation incentives, non-monetary separation benefits, perceived ease of finding a comparable civilian job, possibility of a RIF, tenure and spousal support.

B. DEFINITIONS

The three separation plans used in this study are defined as follows:

1. Special Separation Benefit (SSB)

This separation benefit is a lump sum equal to 15 percent of annual base pay multiplied by years of service. This option gives separating members the same transition benefits as those given to members involuntarily separated, i.e. four months medical coverage, 24 months commissary privileges, job counseling and placement assistance, and permission to remain in government family housing for up to two months after separation. The lump sum is taxable as regular income in the year it is received. Presently, a minimum of six years active duty service is needed to qualify for this benefit. [Ref. 2:p. 14]

2. Voluntary Separation Incentive (VSI)

This incentive offers an immediate annuity equal to 2.5 percent of annual base pay multiplied by years of service. The annual payments continue for twice the number of years the member has served on active duty. These payments are not adjusted for inflation. A minimum of six years active duty service is presently needed to qualify for this incentive. There are no transitional benefits. [Ref. 2:p. 14]

3. 15-Year Retirement

This plan offers an immediate annuity using the same formula as traditional retirement pay, i.e. 2.5 percent of annual base pay multiplied by years of service. Monthly payments continue for the member's lifetime and are adjusted annually for inflation similar to present retirement pay. Service members receive the same benefits as with 20-year retirement (medical care, commissary and exchange privileges, etc.). A minimum of 15 years active duty service would be needed to qualify. Presently this plan is only in the proposal stage in Congress. [Ref. 3:p. 3]

C. THESIS ORGANIZATION

This introduction presents background of the problem, objectives and purpose of the analysis, and thesis organization. The next chapter presents the hypotheses as they were derived from a review of the literature. The third chapter, research methodology, describes the sample surveyed, measures used in survey development and demographics. The fourth chapter presents responses from the survey and provides hypothesis testing results. The fifth chapter provides an analysis of results with regard to the literature, and the final chapter summarizes findings and conclusions.

II. LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

A. REVIEW OF THE LITERATURE

Review of the literature revealed many similarities between the decision to voluntarily leave an organization (turnover) and the decision to retire early. Retirement from the military after a 20 year career has some semblance of early retirement from industry. However, military officers are in their early forties after completing a 20 year career and can easily start a second non-military career. Thus there are marked differences between retirement decision of those in the military and those in civilian settings. In a study of the Navy career transition cycle, Bruce (1991) explains that "retirement from the Navy resembles 'retirement', 'early retirement', and 'resignation' in industry settings." [Ref. 4:p. 49] It is ambiguous whether factors affecting the decision to accept a separation incentive and leave the military are more closely related to those affecting turnover decision or early retirement and retirement decisions. Since both civilian and military literature differentiate between factors predicting voluntary turnover/retention and early retirement/retirement behaviors, this review of the literature has been similarly organized.

1. Turnover and Retention Literature

The Navy Personnel Research and Development Center conducted a research program from 1981 to 1989 focusing on unrestricted line officer career development and management issues. A longitudinal database containing over 500 questionnaire variables related to retention and career development and management issues was established, using data collected in both FY82 and FY86/87. Since the aviation community was experiencing retention problems, one research goal was to assist the Navy in attempting to predict which aviators would stay in the Navy and which would leave.

In order to obtain up-to-date information on which variables could best predict retention and turnover behavior, and to identify variables to be included in their study of factors influencing aviator retention, a literature review that compared results of civilian and military literature on retention and turnover was conducted by Wilcove and Burch (1991). They suggested the following factors should be considered when studying the retention/turnover issue:

personality characteristics; interest inventory scores; job challenge; supervisory style (considerate versus authoritarian); spousal support; organizational characteristics and practices; pay and promotional opportunities; availability of attractive civilian jobs; measures of job satisfaction, organizational commitment, and met expectations; and the intention to stay or leave an organization [Ref. 5:p. 5]

A separate study by Burch, Sheposh and Morrison (1991) attempted to identify factors leading to surface warfare officer (SWO) retention using data extracted from a sample of SWOs who participated in the FY86 officer career development survey conducted by the Navy Personnel Research and Development Center. Utilizing the Steers and Mowday (1981) model of employee turnover as the framework, they tested a hypothesized model of SWO retention (using path analysis) which identified a combination of ten individual, organizational and environmental factors as turnover determinants.

The results of the analyses indicated the variables having the strongest zero-order relationship to retention were stated career intent, intention to search, spousal support and tenure. Organizational commitment, spousal support and tenure were found to be significant predictors of career intent, accounting for 29 percent of the variance. [Ref. 6:p. 15]

Based on review of turnover literature, several variables were chosen to study as possible determinants of the likelihood of accepting a voluntary separation incentive. These include career intent, spousal support, perceived availability of comparable civilian jobs and tenure (years of active duty service).

2. Retirement and Early Retirement Literature

Quinn, Burkhauser and Myers (1990) conducted a review of literature focusing on economic determinants of the individual retirement decision within a public policy framework [Ref. 7:p. 41-75]. They found that early research showed age and poor health as the most common reasons given for retirement. Financial incentives were rarely considered to be important determinants of the decision to retire, and the thought that income sources might induce retirement was generally dismissed. More recent research findings indicate factors such as health, job characteristics and involuntary terminations, i.e. threat of layoffs or age mandated retirement, are still important but are usually analyzed in conjunction with the financial tradeoffs between loss of regular income and Social Security and/or employer pensions. [Ref. 7:p. 42]

Gotz and McCall (1983), in their study of retirement incentives for U.S. Air Force officers in the current retirement system, concluded:

...the common conception that retirement pay is an overwhelming inducement for officers beyond the tenth year of service to remain in the Air Force appears to be correct. [Ref. 8:p. 342]

Lozier and Dooris (1991), in a study to identify the potential influence of 18 factors on faculty members' decisions to retire, found "the two most salient factors emerging from the responses were overall financial status

and eligibility for full retirement benefits " [Ref. 9:p. 102] Desirability of more personal/family time, other interests and working conditions/policies ranked third, fourth and fifth respectively. They concluded:

Because of the importance of individual financial status upon the retirement decision, financial inducements are probably the most powerful tool for influencing that decision. [Ref. 9:p. 105]

Based on review of the early retirement/retirement literature, several factors relating to overall financial status and perception of future economic wellbeing were chosen for study. These include the importance of non-monetary benefits, monetary incentive plans, and the probability of involuntary separation through a reduction in force (RIF).

B. DEVELOPMENT OF HYPOTHESES

A combination of variables derived from the literature on turnover/retention and early retirement/retirement was used for this study of lieutenant commanders' likelihood of accepting a separation incentive when given the choice of three voluntary separation plans: Voluntary Separation Incentive (VSI), Special Separation Benefit (SSB), and 15-Year Retirement. The dependent variable was the likelihood of accepting an incentive plan (thus, voluntarily leaving the Navy). The following independent variables were used: monetary separation incentives (VSI, SSB, 15-year

retirement), non-monetary separation benefits, possibility of reduction in force (RIF), perceived ease of obtaining a comparable civilian job, tenure and spousal support. The hypothesized model is presented in Figure 1.

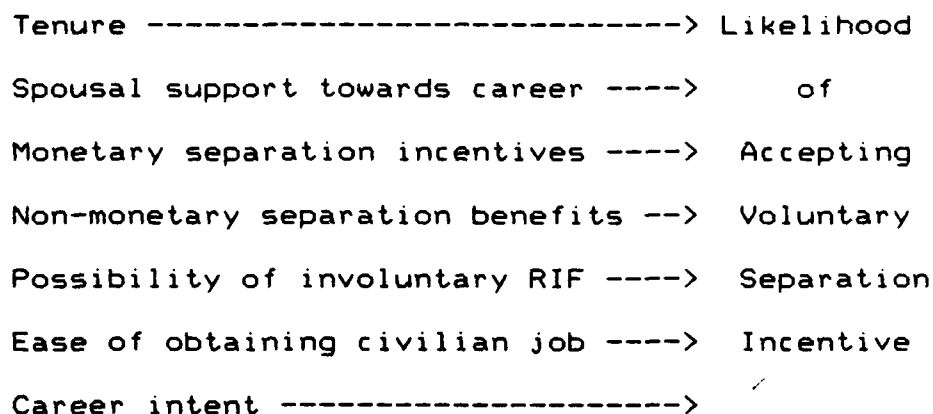


Figure 1. Hypothesized model

The following hypotheses were developed to provide the basis for survey construction:

1. Hypothesis 1: Years of Active Duty Service (Tenure)

Tenure is negatively related to the likelihood of accepting an incentive and leaving the organization (the more years of service, the less likely to accept). Although civilian literature consistently supports this, no military studies were found specifically examining the relationship between tenure and turnover [Ref. 5:p. A-4]. However, since fewer than three percent of Air Force majors voluntarily resign during the "teen" years of service due to the

strength of the "carrot" of retirement pay [Ref 8:p 342], it can be inferred that the same relationship between tenure and turnover that was present in the civilian literature may exist in a military setting. Therefore, it is expected that the more years lieutenant commanders have served on active duty, the less likely they would be to accept a voluntary separation incentive.

2. Hypothesis 2: Spousal Support

Spousal support is negatively related to the likelihood of accepting an incentive and leaving the Navy (the more supportive the spouse toward a Navy career, the less likely to accept). The research consistently shows that spousal support (a spouse's support or lack of support for their mate's career) is a strong correlate of the continuance decision [Ref. 5:p. A-15].

3. Hypothesis 3: Monetary Separation Incentives

Monetary separation incentives are positively related to the likelihood of accepting an incentive and leaving the Navy (the greater the monetary incentive, the more likely to accept). Civilian and military researchers agree that pecuniary variables (pay, allowances, bonuses) are important considerations in determining whether to leave an organization [Ref. 5:p. A-22]. Since the three monetary separation incentives (VSI, SSB and 15-year retirement) vary in their present value, with the 15-year retirement having

the greatest present value and SSB having the lowest, it is expected the 15-year retirement will show a greater likelihood of acceptance than the other two alternatives. The current preference of enlisted servicemembers who have chosen the lump sum (SSB) over the annuity (VSI) by a four to one margin could lend support to this hypothesis; they may perceive the monetary value of the lump sum as being greater because it is a larger sum of money in their hand "now", a sum with which to pay off debts and use for living expenses while they find a new job. To those individuals, the monetary "value" of the lump sum may truly be greater than that of the annuity. Without financial counseling, few enlisted servicemembers may be aware of either the tax consequences of accepting the lump sum or the concept of present value.

4. Hypothesis 4: Non-monetary Separation Benefits

The importance of non-monetary separation benefits is negatively related to the likelihood of accepting an incentive and leaving the Navy (the more important non-monetary benefits are, the less likely to accept). Most researchers agree that nonpecuniary factors, like monetary factors, are important in the turnover decision. In this study, these non-monetary benefits include post-separation benefits such as health care, commissary and exchange privileges, pre-separation counseling, employment

assistance, permissive leave for job search, and transitional use of military family housing. Since neither VSI nor SSB offers full retirement benefits, a negative relationship is expected between importance of benefits and likelihood of acceptance of VSI or SSB. However, since the 15-year retirement plan does include full retirement benefits, it is possible there could be a positive correlation between importance of benefits and likelihood of acceptance of the early retirement plan. Overall, though, it is expected that the perception that the decreased monetary benefit of the 15-year retirement plan will be equated to a decrease in overall benefits, leading to a negative relationship between importance of benefits and the likelihood of accepting a separation incentive.

5. Hypothesis 5: Possibility of Reduction in Force

The possibility of an involuntary reduction in force (RIF) is positively related to the likelihood of accepting an incentive and leaving the organization (the greater the possibility of RIF, the more likely to accept). In a study which applied a pension acceptance model to acceptance of an early retirement pension bonus, Hogarth (1988) found that the worker's perception of facing a layoff created the largest increase in the probability of accepting a retirement incentive [Ref 10:p 28]

6. Hypothesis 6: Perceived Ease of Obtaining Comparable Civilian Employment

The perceived ease of obtaining a comparable civilian job is positively related to the likelihood of accepting an incentive and leaving the Navy (the greater the perceived ease, the more likely to accept). Wilcove and Burch (1991) found several military personnel studies which suggest that perceived job alternatives and a person's perception of their own marketability are important considerations in the turnover decision [Ref. 5:p. A-24]

7. Hypothesis 7: Career Intent

Career intent is negatively related to the likelihood of accepting an incentive and leaving the organization (the greater the career intent, the less likely to accept). Wilcove and Burch state that "intention to leave was consistently found in the military literature to correlate significantly with actual behavior" [Ref. 5:p. A-30]. In the Burch et. al. surface warfare retention model, stated career intent had the strongest relationship with retention [Ref. 6:p. 6], as was the case in a 1989 study by Bruce and Burch investigating factors leading to naval aviator retention [Ref. 6:p. 18].

III. RESEARCH METHODOLOGY

A. SUBJECTS

Data were collected from a convenience sample consisting of active duty naval officers with the rank of lieutenant commander attending the Naval Postgraduate School. Lieutenant commanders were selected because their tenure, in general, makes them eligible for all three voluntary separation plans being studied. Lieutenants and below had too few years of service to be close to eligibility for the 15-year retirement plan, while officers with more than 16 years of tenure (generally commanders) are not presently eligible for the VSI and SSB.

After survey construction, a pilot study was conducted to evaluate survey mechanics, check for biases, and ensure completeness of content. Each member of the pilot group completed a survey and was interviewed. The pilot study indicated that the survey content was complete and unbiased, requiring only minor changes in wording describing the three separation plans. The survey can be found in Appendix A.

Survey questionnaires were distributed in student mailboxes to a total of 137 lieutenant commanders assigned to Naval Postgraduate School. A total of 83 questionnaires were returned, giving a response rate of 61 percent of the

population. Eighty-three surveys were entered into the data base constructed for the analysis. No surveys were rejected due to insufficient information. Survey data was entered using MINITAB statistical software and random cases were screened for accuracy. No errors were found.

Generalizing the analysis to all lieutenant commanders in the Navy is not a goal of the research as it was not possible to acquire necessary data to statistically compare the distribution of the NPS lieutenant commanders to the distribution of lieutenant commanders in the Navy. Other organizations have better data base access and resources necessary to accomplish this. Therefore, it is assumed that the distribution of NPS lieutenant commanders does not necessarily approximate that of the entire Navy in several respects. Although all warfare specialties are represented, the proportion may not mirror that of the general population. Additionally, the NPS sample group has a higher level of educational attainment than the general population. This research should be viewed from the perspective of presenting relevant and new insight into the timely issue of separation incentives through perceptions of the officers most affected by the issues examined.

The breakdown of the sample group by years of active duty service (item 1) is presented in Table 1.

TABLE 1
BREAKDOWN BY YEARS OF ACTIVE DUTY SERVICE

Years	Frequency	Percent
10	5	6.0
11	21	25.3
12	19	22.9
13	21	25.3
14	10	12.1
15	5	6.0
16	1	1.2
19	1	1.2
Total	83	100.0

The mean number of years of active duty service was 12.4, with over 97 percent of respondents having between 10 and 15 years of service. This confirms that the survey sample is primarily composed of those officers for which the survey and its analysis were intended.

The majority of the sample group, 89.2 percent, was married, with 2.4 percent divorced and 8.4 percent single. The number of children ranged from zero to four, with a mean of 1.1 child. Eighty-seven percent of the group was male. The age of respondents ranged from 32 to 42 years, with a mean age of 35.7 years.

The breakdown of the sample group by designator (Item 6) is presented in Table 2.

TABLE 2
BREAKDOWN BY DESIGNATOR

Designator	Frequency	Percent
1100/1107 (General URL)	9	10.9
1110/1117 (Surface Warfare)	6	7.3
1120 (Submarine Warfare)	8	9.6
1140 (Special Operations)	1	1.2
1300 (Aviation, General)	1	1.2
1310/1317 (Aviation Warfare, pilot)	8	9.6
1320/1327 (Aviation Warfare, NFO)	8	9.6
1440/1460 (Eng. Duty Officer, EDO)	16	19.3
1510 (Aerospace EDO)	4	4.8
1520 (Aerospace MDO)	2	2.4
1610/1630 (Crypto/Intell.)	3	3.6
1800 (Oceanographer)	4	4.8
2900 (Nurse corps)	1	1.2
3100 (Supply corps)	10	12.1
5100 (Civil eng. corps)	2	2.4
Total	83	100.0

The surface warfare community (1110/1117) is not well represented in this sample group. As the largest warfare community, it has the smallest percentage of respondents (7.3 percent) when compared to submarine warfare (9.6 percent) and aviation warfare (20.4 percent). Aviation and engineering duty officers are also heavily represented in

comparison to the relative small size of their communities. Therefore designator mix within the sample group differs significantly from that which would be expected in the general lieutenant commander population of the Navy.

B. VARIABLES AND MEASURES

Each variable that was examined and its measurement are explained below. Variable labels as used in statistical analyses and presented in Tables and Appendices are given in parentheses.

1. Tenure (YRSACDU)

Each respondent was asked to indicate the number of years of active duty military service completed on the questionnaire. An individual's value on this variable could range from 8 to 20.

2. Spousal Support (SPOUSATT)

To measure spousal support, one question assessing their spouse's feelings towards their Navy career was used [Ref. 6:p. 13]. A response scale ranging from 1 (completely opposed) to 7 (completely supportive) was used. Not applicable (N/A) was scored as 8.

3. Monetary Separation Incentives (LIKESSB, LIKEVSI, LIKEERP)

Respondents were asked to assess the likelihood of accepting one of the three separation plans (88B, V8I and 15-year retirement) on a 7-point scale from 1= "highly

unlikely" to 7= "highly likely". An explanation of each plan, method of calculating payment amounts, and comparison of present values of SSB and VSI for lieutenant commanders with varying years of tenure were included in the questionnaire. Additionally, a question asking respondents to rank their likelihood of accepting the three separation plans, from 3 (most likely to accept) to 1 (least likely to accept) was used as a means to break ties between likelihood of various plans in order to get a clear cut ranking.

4. Non-monetary Separation Benefits (MEDICAL, COMM_EXC, JOBLEAVE, FAMHOUSE, SEPCOUNS, EMPLASST)

The importance of non-monetary benefits in the likelihood of accepting a separation incentive plan was measured by asking respondents to evaluate six non-monetary benefits on a 7-point scale from 1= "not important" to 7= "extremely important". The benefits included: medical benefits and care, commissary/exchange privileges, permissive leave for job search, transitional use of military family housing, pre-separation counseling, and employment assistance. These represent a combination of current benefits offered by the voluntary separation and early retirement plans being studied.

5. Possibility of Reduction in Force (RIFPROB)

Respondents were asked to assess the possibility of being involuntarily separated due to an involuntary

reduction in force on a 7-point scale from 1= "highly unlikely" to 7= "highly likely".

6. Perceived Ease of Obtaining Comparable Civilian Job (CIVJOB)

A single question asking how easy it would be to find a job outside the Navy with approximately the same income and fringe benefits, using a 7-point response scale from 1= "very difficult" to 7= "very easy", measured perceived ease of obtaining a comparable civilian job. [Ref. 11:p. G-45]

7. Career Intent (CARINT)

A single question was used to assess career intent: "What is your intention in pursuing an active Navy career at least until you are eligible for a 20-year retirement?" A 7-point response scale was used to indicate an officer's certainty of continuing an active Navy career, ranging from 1= "certain that I will not leave voluntarily prior to becoming eligible for retirement" to 7= "certain I will not voluntarily continue in the Navy until I'm eligible for retirement." [Ref. 11:p. K-1]

8. Dependent Variable: Likelihood of Accepting Separation Incentive (LIKEERP)

The dependent variable, the likelihood of accepting any incentive, was measured by using the largest value obtained from each respondent on survey Item 12. This

question asked respondents to assess the likelihood of accepting each of three monetary incentives (SSB, VSI and 15-year retirement) on a scale ranging from 1 (highly unlikely) to 7 (highly likely). For example, if the response for likelihood of accepting Special Separation Benefit (SSB) was 1 (highly unlikely), the response for the likelihood of accepting Voluntary Separation Incentive (VSI) was 4 (neutral), and the response for the likelihood of accepting 15-year retirement was 6 (likely), the value of 6 was used for that respondent's likelihood of accepting an incentive. In case of a tied response between two plans, the question asking respondents to rank their likelihood of accepting the three plans was used to ascertain which plan yielded the greatest likelihood of acceptance. In addition, an open ended question asking why the respondent chose the plan ranked most likely to accept was used to elicit factors relevant to their decision not addressed in the survey items.

C. DATA ANALYSIS

MINITAB statistical software was used for data analysis. A summary of variables is presented in Table 3.

To arrive at values for the dependent variable, responses to survey Item 12 (likelihood of accepting each of the three voluntary separation plans, Special Separation Benefit, Voluntary Separation Incentive, and 15-year

TABLE 3
SUMMARY OF VARIABLES

<u>Variable name</u>	<u>Variable description</u>
YRSACDU	Years active duty service
CHILD	Number of children
AGE	Age (in years)
RIFPROB	Measures probability of RIF
SPOUSATT	Measures attitude of spouse
CARINT	Measures career intent
CIVJOB	Measures ease of finding comparable civilian job
LIKESSB	Measures likelihood of accepting Special Separation Benefit
LIKEVSI	Measures likelihood of accepting Voluntary Separation Incentive
LIKEERP	Measures likelihood of accepting 15-year retirement plan
MEDICAL	Measures importance of medical care
COMM_EXC	Measures importance of commissary and exchange privileges
JOBLEAVE	Measures importance of permissive leave for job search
FAMHOUSE	Measures importance of temporary use of military family housing
SEPCOUNS	Measures importance of separation counseling
EMPLASST	Measures importance of employment assistance

retirement) were checked to get the general trend of the data. Although the values varied considerably, every respondent but one had given the 15-year retirement plan either the highest value (indicating greatest likelihood of acceptance) or had tied with another plan. There were ten cases of tied values; nine cases rated likelihood of acceptance of all three plans as highly unlikely (1) and one case rated likelihood of acceptance of all three plans as unlikely (2). In those cases, since ranking was not meaningful because likelihood of acceptance was the same for each alternative, the value used for the dependent variable was either highly unlikely (1) or unlikely (2) as appropriate. As only one respondent had not given the 15-year retirement plan the highest likelihood (that respondent had rated the 15-year retirement plan as second most likely to accept), the responses to Item 12.c. (likelihood of accepting 15-year retirement) were used as the dependent variable, measuring the greatest likelihood of accepting a separation incentive.

A second method of computing the dependent variable was also used. A new variable, average likelihood of accepting a separation incentive (AVG_LIKE), was created by summing each respondent's responses to Item 12 and dividing by three. This method of computing the dependent variable would result in a weighted value including the entire spectrum of a respondent's likelihood of accepting all three

voluntary separation plans. Use of this dependent variable could reveal relationships not accounted for by the dependent variable using the greatest likelihood of acceptance (LIKEERP).

Univariate statistics were computed for all variables. In addition to calculation of means, medians and standard deviations, histograms were plotted in order to form initial impressions of the data and decide how to proceed with the analysis. Descriptive statistics, histograms and frequency distributions can be found in Appendix B. Univariate analysis indicated that most distributions were highly skewed, with response data uniformly distributed in only a few cases.

Correlation matrices were computed to examine relevant relationships between the variables using Pearson product-moment correlation. Since univariate statistics and histograms of the data indicated nonnormal distributions, nonparametric correlation using the Spearman rank correlation coefficient was also accomplished. Scatterplots were formulated for all relevant pairings of variables including those shown to have a significant positive or negative correlation.

Using the MINITAB "BREG" command, the best two subsets of regression were calculated using first one predictor of the dependent variable [likelihood of accepting 15-year retirement (LIKEERP)], then two variables, until all

variables were included. The variables likelihood of accepting VSI (LIKEVSI) and likelihood of accepting SSB (LIKESSB) were not included as independent variables in the regression analysis due to their high correlation with the dependent variable and lack of meaningfulness as predictors of the likelihood of accepting 15-year retirement.

Multivariate regression analysis was then conducted using the seven variables that were indicated by the best subsets of regression output to yield the highest adjusted R-squared [importance of medical benefits, family housing, and permissive job leave (MEDICAL, FAMHOUSE, JOBLEAVE), age (AGE), probability of reduction in force (RIFPROB), tenure (YRSACDU) and number of children (CHILD)]. Correlation matrices, best subsets of regression output and the multivariate regression analysis described above can be found in Appendix B. The results of correlation analyses and multivariate regression will be presented in Chapter IV.

Hypothesis testing was performed to determine if the independent variables tenure (YRSACDU), spouse's attitude (SPOUSATT), importance of non-monetary separation benefits (MEDICAL, COMM_EXC, JOBLEAVE, FAMHOUSE, SEPCOUNS, and EMPLASST), probability of reduction in force (RIFPROB), perceived ease of obtaining a comparable civilian job (CIVJOB), and career intent (CARINT) were either negatively or positively linearly correlated with the dependent variable, likelihood of accepting a separation incentive

(LIKEERP). In each case, the null hypothesis stated that the two variables are linearly uncorrelated. The alternative hypothesis was that the two variables are either negatively or positively linearly correlated following the specific hypotheses as presented in the previous chapter. A test statistic (t) was calculated using the zero order correlation coefficient (r). A one-tailed test was used with a significance level of 0.05, with a critical t -value of 1.66 for a right-tailed test or -1.66 for a left-tailed test ($df=n-2$).

A hypothesis test was also performed to determine the relationship between three monetary separation incentives and the likelihood of acceptance. Survey Item 12 asked respondents to rate the separation plans according to their likelihood of acceptance from 1 (highly unlikely) to 7 (highly likely). Initial inspection of the data showed that the both the mean and median ratings of the 15-year retirement plan were highest, with VSI second and SSB last. A within-subjects analysis of variance was conducted to determine if significant differences in the mean responses across the three items existed. The null hypothesis stated that the means were equal. The alternative hypothesis stated that the mean ratings were different. The MINITAB output specifies a p -value specifying the smallest significance level at which the null hypothesis can be rejected. Therefore, if the p -value is less than or equal

to the 0.05 significance level, the null hypothesis can be rejected. The results of hypothesis testing will be presented in Chapter IV.

IV. RESULTS OF DATA ANALYSIS AND HYPOTHESIS TESTING

The following chapter provides results of univariate statistics, correlation and multivariate regression analyses of the determinants of likelihood of accepting a separation incentive as well as results of hypothesis testing. All results described below are based on rating scales where 1= a low rating of the variable and 7= a high rating of the variable.

Respondents reported in general they were certain they would not leave the Navy voluntarily prior to eligibility for a 20-year retirement (Mean=1.4, SD=.60). They perceived the probability of an involuntary reduction in force as fairly unlikely (M=2.77, SD=1.65) and saw their spouses as being very supportive of their Navy career (M=6.27, SD=1.36). Respondents had mixed feelings on the ease of finding a job outside the Navy with approximately the same income and fringe benefits as they now have (M=4.01, SD=1.64, Median=4.00); half felt it would be easy while the other half perceived difficulty.

There was little likelihood of respondents accepting the Special Separation Benefit (M=1.66, SD=1.16). Most respondents said it would be fairly unlikely that they would accept Voluntary Separation Incentive (M=2.30, SD=1.54), while it was fairly likely they would accept a 15-year

retirement plan ($M=4.92$, $SD=2.01$). When asked to rank their likelihood of accepting the three plans, 15-year retirement was ranked as most likely ($M=2.85$, $SD=.50$), followed by VSI ($M=1.94$, $SD=.39$) and SSB ($M=1.19$, $SD=.48$).

Non-monetary benefits were found to vary in importance in the respondents' decisions to accept a separation incentive and leave the Navy. Among the benefits studied, medical was rated as extremely important in the decision ($M=6.12$, $SD=1.43$), followed by commissary and exchange privileges ($M=4.74$, $SD=1.75$) and permissive leave for job search ($M=4.47$, $SD=1.69$). The remaining benefits were given much less importance in the decision process: employment assistance ($M=3.74$, $SD=1.97$), transitional use of family housing ($M=3.12$, $SD=1.92$) and pre-separation counseling ($M=2.98$, $SD=1.83$).

Responses to Item 14 (explanatory comments for separation plan rankings based on likelihood of acceptance) were coded and sorted into 9 general categories. Table 4 provides a summary of these categories and the frequency of responses in each category. Some respondents gave comments which fell into more than one category; some respondents provided no comments. A total of 75 respondents provided comments. Clearly, full retirement benefits and a monthly income for life are most important to respondents in their ranking of likelihood of accepting separation plans. Other financial factors, total monetary value of plan, income tax

considerations, and cost of living adjustments to counteract inflation, accounted for the majority of other comments made. The small number of other comments made were indirectly related to financial factors: earlier start on a second career, payback on their investment in a Navy career, compensation for sacrifices made while serving in the Navy, and immediate cash to prepare for a new career.

TABLE 4
FREQUENCY OF SUBJECTIVE COMMENTS

<u>Comment Category</u>	<u>Frequency</u>
Full retirement benefits	43
Monthly income for life	35
Total monetary value	21
Tax considerations	16
COLA adjustment for inflation	15
Earlier start on second career	4
Payback on time invested in Navy	3
Compensation for sacrifices made	2
Cash to prepare for new career	1

A. RESULTS OF CORRELATION ANALYSIS AND HYPOTHESIS TESTING

The zero order correlates (both Pearson correlation coefficients and Spearman rank correlation coefficients) of likelihood of accepting a 15-year retirement among

lieutenant commanders at Naval Postgraduate School are presented in Table 5.

TABLE 5
RESULTS OF ZERO ORDER CORRELATIONS WITH
LIKELIHOOD OF ACCEPTING 15-YR RETIREMENT

<u>Variable</u>	<u>Pearson</u>	<u>Spearman</u>
Tenure (years active duty)	-.19 *	-.16
Number of children	+.18 *	+.20 *
Age	-.14	-.11
Probability of reduction in force	+.18 *	+.14
Attitude of spouse	-.10	-.07
Career intent	+.07	+.03
Ease of finding civilian job	+.01	+.04
Likelihood of accepting SSB	+.28 **	+.23 **
Likelihood of accepting VSI	+.43 **	+.37 **
Importance of medical care	-.24 **	-.21 *
Importance of commissary/exchange	-.16	-.18 *
Importance of permissive job leave	+.02	+.08
Importance of family housing use	-.15	-.14
Importance of sep. counseling	-.17	-.22 **
Importance of employment asst.	+.14	-.17
Average likelihood of acceptance	+.83 **	+.83 **
* p < .10 level of significance		
** p < .05 level of significance		

The zero order correlates of all variables can be found in Appendix B (both Pearson correlation coefficients and Spearman rank correlation coefficients).

Since the correlation between the average likelihood of accepting a separation incentive (AVG_LIKE) and the greatest likelihood of accepting an incentive, which was the likelihood of accepting the 15-year retirement (LIKEERP) was very high ($r=.83$), it was determined that the likelihood of accepting 15-year retirement would be used as the sole dependent variable. Due to the high correlation between the two variables, the use of the variable average likelihood of acceptance (AVG_LIKE) would probably not account for additional variance from that determined by the other dependent variable.

Since the values of the two correlation coefficients for each independent variable indicate fairly significant differences, a decision of which correlation coefficient to use (Pearson or Spearman) for hypothesis testing had to be reached. Two methods for determining whether a sample distribution is approximately normally distributed were used. The first method states that when $0.9 < \text{median/mean} < 1.1$, and $3 \text{ times standard deviation} < \text{mean}$, a sample distribution is assumed to be approximately normally distributed. The second method devised by David et al. (1954) states that if the ratio of range/standard deviation falls outside a region of critical bounds for the ratio,

then the hypothesis of normality is rejected at a given significance level (a decision on whether to apply certain parametric procedures should be reached at the .10 significance level). For $n=83$, these critical values at the .10 significance level were 4.33 (lower bound) to 5.56 (upper bound). [Ref 12:p. 323-328] When both methods were applied to the variables, only age, attitude of the spouse toward a Navy career (SPOUSATT), and importance of medical benefits (MEDICAL) indicated a normal distribution of the sample distribution. It would be appropriate to use the Pearson correlation coefficient for only those variables. Therefore, for hypothesis testing, the Spearman correlation coefficient values will be used for all variables except spouse's attitude (SPOUSATT) and importance of medical benefits (MEDICAL).

1. Hypothesis 1: Tenure (Years Active Duty Service)

The null hypothesis stated that tenure is not linearly related to the likelihood of accepting an incentive. The alternative hypothesis was tenure is negatively related to the likelihood of accepting an incentive. The Spearman correlation ($r=-.16$) is in the hypothesized direction, however the value of the test statistic was $t=-1.46$. Since this is greater than the critical value of -1.66 , the null hypothesis was accepted. Therefore, the variables tenure and likelihood of accepting

a 15-year retirement plan are not linearly correlated at the .05 level of significance. This lack of correlation could be due to the strong career intention of the respondents, and their stated desire to remain in the Navy until 20-year retirement eligibility, regardless of their tenure.

2. Hypothesis 2: Spousal Support

The alternative hypothesis was that spousal support is negatively related to the likelihood of accepting an incentive. The Pearson correlation was $r = -.10$ and the value of the test statistic was $t = -.085$. Since this is greater than the critical value, the null hypothesis was accepted. Therefore, the variables spousal support and likelihood of accepting 15-year retirement are not linearly correlated at the 0.05 level of significance.

Failure of this variable to be significantly correlated to the likelihood of accepting early retirement may be due to the strong career intention held by the sample group. They may intend to remain in the Navy until full retirement eligibility despite a spouse non-supportive of their Navy career. The Navy career may be viewed as a necessary means to an end--an end which will be reached in the near future.

A more likely explanation is the limited number of respondents with low spousal support ratings. No effect can be found with this skewed a distribution.

3. Hypothesis 3: Monetary Separation Incentives

The alternative hypothesis stated that monetary separation incentives are positively related to the likelihood of accepting a separation incentive, i.e. the greater the monetary incentive, the more likely to accept. As stated previously, the monetary value of the separation incentives can be ranked (highest value to lowest) 15-year retirement, VSI, and SSB. When respondents were asked to rate their likelihood of accepting each separation incentive plan from 1 (highly unlikely) to 7 (highly likely), 15-year retirement was rated highest ($M=4.92$, $SD=2.01$), VSI was rated second ($M=2.30$, $SD=1.54$), and SSB was rated least likely to accept ($M=1.66$, $SD=1.16$). A within-subjects analysis of variance (Appendix B) indicated significant differences in the mean responses across those items ($F=95.61$, $p < .000$). This clearly establishes an overall ranking of likelihood of accepting a separation incentive: 15-year retirement > VSI > SSB (from most likely to least likely). This directly corresponds to the monetary value rankings of the incentive plans: 15-year retirement > VSI > SSB (from high to low). In other words, as the monetary value of the plans increases, their likelihood of acceptance increases. The null hypothesis that monetary separation incentives are not linearly related to the likelihood of accepting a separation incentive was rejected.

4. Hypothesis 4: Non-monetary Separation Benefits

The alternative hypothesis stated the greater the importance of non-monetary separation benefits, the less likely to accept a separation incentive. The r-values and the respective test statistics for the importance of the benefits were:

- Medical: $r = -.24$; $t = -2.23$, which is less than the critical value of -1.66 . The null hypothesis that there is no linear correlation was rejected. Therefore, at the .05 level of significance, the importance of medical benefits is negatively correlated to the likelihood of accepting a separation incentive (the greater the importance of medical care, the less likely to accept).
- Commissary/exchange privileges: $r = -.18$; $t = -1.65$, which is greater than the critical value of -1.66 . Therefore the null hypothesis was accepted; at the .05 significance level, the importance of commissary/exchange privileges is not linearly correlated to the likelihood of accepting a separation incentive. (It should be noted that there would be a significant negative correlation at the .06 significance level.)
- Permissive job leave: $r = 0.08$; $t = 0.72$, which is less than the critical value of 1.66 . The null hypothesis was accepted; at the .05 significance level there is no linear correlation between the importance of permissive job leave and the likelihood of accepting a separation incentive.
- Use of military family housing: $r = -.14$; $t = -1.27$, which is greater than the critical value of -1.66 . Therefore, the null hypothesis was accepted. There is no linear correlation between the use of military family housing and the likelihood of accepting a separation incentive at the .05 significance level.
- Separation counseling: $r = -.22$; $t = -2.23$, which is less than the critical value of -1.66 . The null hypothesis was rejected. At the .05 level of significance, there is a negative correlation between the importance of separation counseling and the likelihood of accepting a

separation incentive (the greater the importance of counseling, the less likely to accept).

- Employment assistance: $r = -.17$; $t = -1.55$, which is greater than the critical value of -1.66 . The null hypothesis was accepted; at the .05 level of significance the importance of employment assistance and the likelihood of accepting a separation incentive are not linearly correlated.

The negative correlation of the importance of medical benefits with likelihood of accepting a voluntary separation plan was not surprising. Neither SSB nor VSI offers any kind of medical benefits. Although the 15-year retirement plan offers full retirement benefits including medical care, those respondents who ranked the importance of medical benefits very high may have lumped all three plans together while formulating their response, reducing their likelihood of accepting the 15-year retirement plan in tandem with the other two options.

The negative correlation of separation counseling could be due to the lack of knowledge about the availability and effectiveness of the current separation counseling (transition assistance) program. If respondents felt there was a viable program in existence which met all their needs, then it seems likely that the importance attached to that benefit would not have necessarily decreased their likelihood of acceptance, as was the case. Perhaps respondents feel the need for more counseling and assistance than is currently provided.

The lack of linear correlation between the likelihood of acceptance of a separation plan and importance of other benefits emphasizes the importance of medical benefits, commissary/exchange privileges and separation counseling. Considering the high cost of civilian medical care and shopping in civilian markets, the importance of those continued benefits upon separation is certainly understandable. Similarly, based on the current deluge of individuals utilizing the Transition Assistance Program, its value to separating servicemembers is underscored.

5. Hypothesis 5: Possibility of Involuntary RIF

The alternative hypothesis stated that the greater the possibility of an involuntary reduction in force, the more likely to accept a separation incentive. The correlation coefficient was calculated to be $r=.14$. Since the value of the test statistic, $t=1.27$, was less than the critical value of 1.66, the null hypothesis was accepted. Therefore, at the 0.05 level of significance, the possibility of an involuntary RIF and likelihood of 15-year retirement acceptance are not linearly correlated. As there was limited variance in this variable, the possibility of determining a significant correlation with likelihood of early retirement was constrained. The fact that most respondents perceive little likelihood of an involuntary RIF could be heavily influenced by the commitment made by Navy

officials thus far to protect its people from involuntary RIFs.

6. Hypothesis 6: Perceived Ease of Obtaining Comparable Civilian Employment

It was hypothesized that the greater the perceived ease of obtaining comparable civilian employment, the more likelihood of accepting an incentive. The correlation coefficient was calculated to be 0.04, and the value of the test statistic was $t=0.36$, which is less than the critical value of 1.66. Therefore, the null hypothesis was accepted. At the 0.05 level of significance, perceived ease of obtaining comparable civilian employment and likelihood of accepting 15-year retirement are not linearly correlated.

One explanation for this lack of correlation could be that those likely to accept a 15-year retirement plan would have steady income with full benefits which would protect them during possible periods of unemployment encountered while seeking a new job, thus increasing their perceived ease associated with finding comparable employment.

The fact that responses on this variable were approximately normally distributed, (with a mean and median of 4.0) could indicate that the sample group doesn't have a clear idea of job market conditions or feel differentially prepared for work in the civilian job market. Since

officers have varied warfare specialties, their perception of marketability of their skills may vary greatly. Although lieutenant commanders have obviously been out of the job market for some time, given the increased marketability created by their master's degree earned at Naval Postgraduate School, it is expected responses on this survey item would have been skewed toward greater ease in finding a comparable job. However, current economic conditions and high unemployment, coupled with the large numbers of civilian organizations which are downsizing, may have decreased optimism about finding a comparable job.

Alternatively, those individuals with the highest expectations regarding civilian work opportunities may be more strongly influenced by their dedication to their current career in the Navy; thus, no relationship would be found between perceived employability and likelihood of accepting early retirement.

7. Hypothesis 7: Career Intent

The alternative hypothesis stated that there was a negative relationship between career intent and likelihood of accepting a separation incentive. The value of the test statistic was $t=0.27$, which is less than the critical value of 1.66. The null hypothesis was accepted. Therefore, career intent and likelihood of accepting 15-year retirement

are not linearly correlated at the 0.05 level of significance.

The failure of this variable to be significantly correlated to the likelihood of accepting early retirement may be a function of the fact that the sample group was composed of lieutenant commanders who, without exception, intend to remain in the Navy until eligibility for 20-year retirement. Responses on the survey items measuring career intent (CARINT) had a range of one to three (on a seven point scale), with a mean of 1.4, standard deviation of .6 and median of 1.0. Very simply stated, respondents in this sample group have no intention of voluntarily leaving the Navy. The limited variance in career intent constrained the correlational findings.

B. RESULTS OF REGRESSION ANALYSIS

The multivariate regression consisted of seven predictors for the dependent variable, likelihood of accepting 15-year retirement (LIKEERP), that were derived from the MINITAB best subsets of regression output. Analysis of this output, which calculates the best two subsets for regression beginning with one variable, then adding one variable until all independent variables are included in the regression, indicates that the best combination which can be obtained uses seven independent variables and results in an R-squared of .216 (the maximum

adjusted R-squared should be used when deciding how many variables to use). When multivariate regression using those seven variables was conducted, number of children (CHILD), importance of medical benefits (MEDICAL), tenure (YRSACDU), and importance of family housing (FAMHOUSE) were found to be significant at the .10 level. Results of this multivariate regression are shown in Table 6; computer output can be found in Appendix B.

TABLE 6
RESULTS OF REGRESSION ANALYSIS
N=83; R-sq= .216; F=2.95 (p=.009)

<u>Variable</u>	<u>t-ratio</u>
CONSTANT	3.52 **
Importance of medical benefits	-2.13 **
Tenure (years active duty)	-1.64 *
Number of children	2.50 **
Probability of reduction in force	1.27
Age	-1.07
Importance of mil. family housing	-1.92 *
Importance of permissive job leave	1.09

* p < .10 level of significance

** p < .05 level of significance

Interpretation of results of regression analysis should be made in light of choice of the dependent variable, likelihood of accepting a 15-year retirement plan. It could

be misleading to generalize these results to the likelihood of accepting any of the three voluntary separation incentive plans, although the correlation between the average likelihood of accepting an incentive and the likelihood of accepting the 15-year retirement plan was very high ($r=.83$). Of the three separation plans being studied, only the 15-year retirement plan showed adequate variance to perform meaningful regression analysis. Since respondents in general stated they would not accept either VSI or SSB, then use of regression analysis to identify predictors of the overall likelihood of acceptance should be done with caution.

It is clear that many other factors are involved in this decision process from the amount of variance not accounted for in the regression analysis ($R\text{-squared}=.216$). The use of the number of children as a predictor for the likelihood of accepting 15-year retirement ($t=2.50$, $p=.014$) is understandable in light of the stress a Navy career puts upon a family. The more children a servicemember has, the more difficult the frequent moves become. The child's education is disrupted, the socialization process has to be repeated in a new location, and the physical move itself becomes more difficult with more children. There may be a higher incidence of working spouses in larger families who would also be disrupted by a Navy career. While one might consider greater likelihood to remain in the Navy for

financial reasons with larger families, a strong case for leaving the military as a family becomes larger can certainly be made and is supported by the data.

The significance in the regression ($t=-1.64$, $p=.104$) of the variable tenure (YRSACDU) is easily explained; as an officer becomes more senior and nears eligibility for 20-year retirement, there is less likelihood of accepting any option short of full retirement. This was also reflected in the strong career intention of the sample group and the subjective comments made by respondents.

The variable importance of transitional use of military family housing ($t=-1.92$, $p=.059$) was significant in the regression despite its lack of significance in the zero order correlation ($r=-.14$) and its low mean rated importance to respondents in their acceptance decision of 3.12 (somewhat important). Its significance in correlation may have been constrained by its skewed distribution. This may be influenced by the number of children respondents have; the use of family housing would be more important as family size increases. Since the mean number of children was 1.5 (median=1), those respondents having large families (more than 2 children) comprised only a small percentage (18 percent) of the sample group. It therefore seems logical that transitional use of family housing would be more important to that portion of the sample group, which would explain the lack of significant zero order correlation and

lack of stated importance of the benefit to the majority of respondents.

For reasons similar to those previously discussed in the hypothesis testing of the benefits variables, the importance of medical benefits is again reflected in that variable's significance in the regression ($t=-2.13$, $p=.036$). In response to Item 15, which asked respondents to indicate the importance of each benefit to their decision whether to accept a voluntary separation plan, the mean rating of medical benefits/care was 6.12 (extremely important), with a median rating of 7. Importance of other benefits was overshadowed by the importance of medical care; the mean rating of commissary/exchange privileges was 4.74 (median=5), placing that benefit second in importance, although rated only somewhat important. It can be inferred from the significance of the importance of medical care (MEDICAL) in both the regression and zero order correlation ($r=-.24$), as well as its rated importance in respondents' decisions whether to accept a voluntary separation plan, that medical care is clearly the benefit with greatest importance to respondents in this sample group.

V. DISCUSSION

It is clear that the sample group of lieutenant commanders surveyed at the Naval Postgraduate School is career oriented and has little intention of leaving the Navy voluntarily prior to eligibility for a 20-year retirement. Special Separation Benefit would be little enticement for this group, with fewer than four percent of respondents rating it as likely to accept. Fewer than 11 percent of respondents said they would be likely to accept Voluntary Separation Incentive. Only the 15-year retirement plan was viewed as a viable alternative among the three plans, with nearly 60 percent of respondents rating it as likely to accept. Comments provided by respondents explaining reasons for their ranking of likelihood of accepting the alternative plans could all be categorized into the desire for financial incentives or desire for full retirement benefits.

These results are consistent with the Lozier and Dooris study (1991) which found that overall financial status and eligibility for full retirement benefits are key determinants of the retirement decision. Only the 15-year retirement plan offers full retirement benefits; it was the only plan most respondents would accept.

The lack of Special Separation Benefit's (SSB) enticement for this sample group, contrary to current

acceptance trends among enlisted Navy servicemembers, can be attributed to the difference in tenure between the two groups and a greater depth of financial planning knowledge among the sample group. Currently, SSB has not been offered to enlisted personnel with seniority levels equivalent to those of the sample group. If SSB had been offered to more senior personnel, it seems highly likely that the attractiveness of SSB as an enticement would be greatly diminished. Additionally, the level of educational attainment of the sample group is clearly greater than that of both the enlisted ranks and the general officer ranks. This group of lieutenant commanders, through their core education in financial management at NPS regardless of curriculum, possesses a generally greater level of sophistication about personal financial planning than those without graduate education, officer or enlisted. As stated in the subjective comments made by respondents, the majority is keenly aware of the tax consequences of receiving a lump sum payment, inflation effects and the importance of receiving cost of living allowances and medical care.

Stated career intention of the respondents, whose length of service ranged from 10 to 19 years, coupled with subjective comments from respondents pointing to the importance of a traditional retirement plan with full benefits, supported the Goetz and McCall study which found retirement pay to be an overwhelming inducement for officers

with over 10 years of service to remain in the Air Force. The majority of respondents in the sample group clearly will not voluntarily leave the Navy without at least a 15-year retirement plan with full benefits. The investment of time served on active duty and sacrifices made (such as family separation while deployed) seem to provide large incentives in themselves to remain until eligible for retirement.

Survey results seem to point to the likelihood of accepting a 15-year retirement plan being more closely linked to decisions related to early retirement/retirement factors rather than turnover/retention factors. Possible determinants of the likelihood of accepting a voluntary separation incentive that were taken from the turnover literature (career intent, spousal support, perceived availability of civilian jobs and tenure) were not significantly correlated. The variables chosen for this study taken from factors found to affect early retirement and retirement decisions (importance of medical benefits and monetary incentives) were found to be significantly correlated at the .10 level.

One weakness in the research pertains to selection of the dependent variable as likelihood of accepting a 15-year retirement plan (the variable respondents ranked as having the greatest likelihood of acceptance). Responses from the sample group of lieutenant commanders indicated that, if given a choice, they would not accept either VSI or SSB. If

respondents would not accept either plan, use of regression analysis to identify predictors of their acceptance should be used with caution. In essence, with a sample group of this seniority level, a 15-year early retirement plan with full benefits is the only acceptable alternative to a 20-year retirement. Therefore, interpretation of regression analysis and relationships between variables is most meaningful if made in the framework of the dependent variable likelihood of accepting a 15-year retirement plan. However, since the average likelihood of accepting an incentive plan correlated very highly with the likelihood of accepting the 15-year retirement, then these results could conceivably be generalized to the average likelihood of accepting a voluntary separation plan. The average likelihood (AVG_LIKE) dependent variable could be useful as an alternative in future research. Its greater generality and fair amount of variance may result in a more valid measure of likelihood to accept an early retirement plan.

The seven predictor regression analysis results accounted for only 21.6 percent of the total variance in the measures. This strongly suggests that there are other dimensions relevant to the likelihood of accepting a voluntary separation plan. Further research in this area should be closely linked to financial factors (monetary value of the early retirement plan along with full benefits). Focus groups should be held to determine what

changes, if any, could be made to early retirement plans and other voluntary separation plans in order to entice this career oriented group to leave the Navy (such as additional support in job placement, greater educational assistance, etc). Further research could also discover if there is a similar pattern of responses among enlisted servicemembers with 10 - 19 years of active duty service.

One criticism of implementation of the 15-year retirement plan has been that too many lieutenant commanders would choose to voluntarily leave the Navy, resulting in a large gap in that rank. However, this research does not support that idea of a mass exodus. The stated career intent (CARINT) of respondents was extremely strong, with 100 percent of respondents rating their probability of remaining in the Navy until eligible for 20-year retirement as certain, almost certain, or probable. Only 60 percent of respondents rated their likelihood of accepting the early retirement as higher than neutral. One weakness of surveys in this area is that respondents are only hypothetically faced with the choice, and are more likely to overstate their desire to accept early retirement--in reality it's less stressful to maintain the status quo and not subject oneself to unemployment and job hunting.

The voluntary separation survey used in this research could have value to other groups than lieutenant commanders. It could be useful for other groups with less seniority to

determine their likelihood of acceptance of VSI or SSB, or for senior enlisted personnel with comparable tenure to determine their likelihood of accepting a 15-year retirement plan.

VI. SUMMARY AND CONCLUSIONS

The objective of this study was to develop a survey to analyze lieutenant commanders' perceptions of three voluntary separation plans, Special Separation Benefit, Voluntary Separation Incentive and 15-Year Retirement. Several factors were studied to identify their relationship to the likelihood of accepting one of the plans. To accomplish this, a survey of lieutenant commanders attending Naval Postgraduate School was conducted. Although the convenience sample used does not closely approximate the distribution of lieutenant commanders in the Navy, it does represent a cross section of a group most directly affected by the issues that are the subject of the research.

Survey findings indicate:

- Respondents are certain they will not leave the Navy voluntarily prior to eligibility for a 20-year retirement.
- Respondents perceive little probability of being involuntarily separated through a reduction in force.
- There is little likelihood that respondents would accept either the Special Separation Benefit (SSB) or Voluntary Separation Incentive (VSI) if given the choice.
- The majority of respondents (60 percent) express some likelihood of accepting a 15-year early retirement plan if given the opportunity.
- Respondents rate medical care as the most important benefit in their decision to accept a voluntary separation incentive.

- Full retirement benefits and a monthly income for life are the two most important factors respondents considered in their ranking of the separation plans in order of their likelihood of acceptance.
- The monetary value of a separation incentive is positively related to the likelihood of acceptance.

Based on analysis and interpretation of survey results, the following conclusions were reached:

- The likelihood of acceptance of a separation incentive by lieutenant commanders is strongly influenced by the amount and type of the monetary incentive as well as eligibility for full benefits.
- It can be inferred from quantitative analyses and from explanatory comments for ranking voluntary separation plans that the likelihood of acceptance is more strongly influenced by factors found to affect retirement/early retirement decisions than those factors affecting turnover decisions.
- Regression analysis is not useful for predicting the likelihood of accepting VSI or SSB because respondents reported they would not accept either plan.
- The regression analysis with seven predictors accounted for only 21.6 percent of the total variance in the measures, suggesting there are other dimensions relevant to classifying likelihood of accepting a voluntary separation incentive.

This research has identified key points decision makers should consider when proposing alternatives to encourage mid-grade officers to voluntarily separate. In general, they are a career oriented group who, unless pressured to separate due to a reduction in force or failure to be promoted, plan to remain in the Navy at least until eligible for a 20-year retirement. If the drawdown requires

reduction of this career officer force, nothing short of an early retirement plan with full benefits would be perceived as adequate compensation. Current plans (Voluntary Separation Incentive and Special Separation Benefit) would be ineffective in enticing this group of lieutenant commanders to voluntarily separate and leave the Navy prior to 20-year retirement eligibility.

APPENDIX A
VOLUNTARY SEPARATION PLAN SURVEY

This appendix contains a copy of the survey administered to lieutenant commanders attending the Naval Postgraduate School. The survey was used to collect data for use in this thesis.


VOLUNTARY SEPARATION PLAN SURVEY

The purpose of this questionnaire is to identify factors influencing the decision to accept one of three voluntary separation plans: Variable Separation Incentive (VSI), Special Separation Benefit (SSB) and 15 Year Retirement. As you know, VSI and SSB are being currently being offered selectively to certain enlisted servicemembers and officers of other services. A 15 Year Retirement Plan was recently proposed by the Chairman of the Senate Armed Services Committee. You've been selected to participate in this survey because, as a LCDR, you are in a position to be eligible for all three of these plans.

With further budget cutbacks on the horizon, it may be only a matter of time before Navy officers are faced with the decision of whether to accept one of the separation plans and leave the Navy. So far, neither VSI nor SSB has been as successful as originally hoped in enticing servicemembers to voluntarily leave the military. With this survey, I hope to identify critical factors decision makers should consider when developing these plans.

After graduation from NPS, we all have obligated service that must be fulfilled before we can leave the Navy. However, for the purpose of this survey, please respond to the questions as though that were not a factor.

Your time in completing this survey is greatly appreciated. Please return your completed survey to SMC 1347. Thanks for your help!


J. P. FORD
LCDR USNR

Questions 1 through 7 request background data which will be used to ascertain the demographics of the sample group. Your anonymity will be strictly maintained.

1. How many years have you been an active duty officer? _____ years
2. Marital status: _____ Married _____ Widowed _____ Separated _____ Divorced _____ Single
3. Number of children: _____ 0 _____ 1 _____ 2 _____ 3 _____ 4 _____ 5 or more
4. What is your rank? _____ LTjg _____ LT _____ LCDR _____ CDR
5. What is your sex? _____ Male _____ Female
6. What is your designator? _____
7. What is your age? _____

Questions 8 - 11 concern an assessment of your job security, spousal support, career intentions, and ease of finding a civilian job.

8. How likely do you think it is that you might be involuntarily separated (through a reduction in force)?

Highly unlikely				Neutral			Highly likely
1	2	3	4	5	6	7	

9. How do you think your spouse feels toward your Navy career?

Completely opposed			Neutral			Completely supportive	N/A
1	2	3	4	5	6	7	8

10. What is your intention in pursuing an active Navy career at least until you are eligible for a 20-year retirement?

- ___ I am certain that I will not leave the Navy voluntarily prior to becoming eligible for retirement.
- ___ I am almost certain I will continue my military career if possible
- ___ I probably will remain in the Navy until I am eligible for retirement
- ___ I don't know if I will continue or not
- ___ I probably will not continue in the Navy until I am eligible for retirement.
- ___ I am almost certain that I will leave the Navy as soon as possible
- ___ I am certain that I will not voluntarily continue in the Navy until I am eligible for retirement.

11. How easy would it be for you to find a job outside the Navy with approximately the same income and fringe benefits you now have?

Very difficult			Neutral			Very easy
1	2	3	4	5	6	7

Questions 12 thru 15 concern various voluntary separation plans either currently in use or proposed. For the purpose of this survey, the following terms are defined:

Special Separation Benefit (SSB): Lump sum benefit equal to 15% of annual base pay multiplied by years of service. This option gives separating members the same transition benefits as those involuntarily separated (4 months medical coverage, 24 months commissary privileges, job counseling and placement assistance, permission to remain in government family housing for up to 2 months after separation). The lump sum benefit is taxable as regular income in year received. A minimum of 6 years active duty service is needed to qualify for this benefit.

Voluntary Separation Incentive (VSI): Immediate annuity equal to 2.5% of base pay multiplied by years of service. Payments continue for twice the number of years of service. Annual payments are not adjusted for inflation. A minimum of 6 years active duty service is needed to qualify for this benefit.

15-Year Early Retirement: Immediate annuity using same formula as traditional retired pay (2.5% of base pay multiplied by years of service). Annual payments are adjusted each year for inflation, payments continue for lifetime. Members receive full traditional retirement benefits (medical care, commissary/exchange privileges, etc.). A minimum of 15 years active duty service is needed to qualify for this benefit.

Representative payments under SSB and VSI can be found on the chart below. Total present value of VSI is discounted at 7%. Initial monthly payment for 15-year retirement would be the same as the VSI payment for year 15 (or appropriate number years of service):

		Years of service							
LCDR		9	10	11	12	13	14	15	16
SSB	Lump sum	47,866	56,813	62,495	72,006	78,006	87,840	94,114	104,795
VSI	Annual payment	7,978	9,469	10,416	12,001	13,001	14,640	15,686	17,466
	Number of years	18	20	22	24	26	28	30	32
	Present value	85,866	107,336	123,276	147,278	164,510	190,125	208,269	236,343

Source: Navy Times, February 17, 1992, p. 16.

12. If you were given a choice of the following voluntary separation plans, how likely is it that you would accept one of the incentives? Respond to each alternative using the 7-point scale below:

	Highly unlikely			Neutral			Highly likely
a. Special separation benefit	1	2	3	4	5	6	7
b. Voluntary separation incentive	1	2	3	4	5	6	7
c. 15-year early retirement	1	2	3	4	5	6	7

13. Rank the following separation plans in order of likelihood that you would accept them: (3 = most likely to accept, 1 = least likely to accept)

- a. Special separation benefit _____
- b. Voluntary separation incentive _____
- c. 15-year early retirement _____

14. Please provide an explanation of your ranking in question 13, especially for the separation plan you were most likely to accept. Use the back of this sheet if necessary.

15. Please indicate the importance of each of the following non-monetary benefits to your decision whether to accept a voluntary separation plan and leave the Navy prior to a 20-year retirement. Respond using the following scale:

	Not important			Somewhat important			Extremely important	
a. Medical benefits/care	1	2	3	4	5	6	7	
b. Commissary/exchange privileges	1	2	3	4	5	6	7	
c. Permissive leave for job search	1	2	3	4	5	6	7	
d. Transitional use of family housing	1	2	3	4	5	6	7	
e. Pre-separation counseling	1	2	3	4	5	6	7	
f. Employment assistance	1	2	3	4	5	6	7	

APPENDIX B

COMPUTER ANALYSIS RESULTS

This appendix contains the computer results used in data analysis of the sample group. A table of descriptive statistics for the variables (including mean values and standard deviation), the frequency distributions of survey item responses, the zero order correlation matrices, the best subsets of regression output, and the results of multivariate regression analysis and analysis of variance are included.

A summary of descriptions of computer variables can be found on the first page of computer results (descriptive statistics).

DESCRIPTIVE STATISTICS

	N	MEAN	MEDIAN	TRMEAN	STDEV	SEMEAN	MIN	MAX
yrsacdu	83	12.434	12.000	12.360	1.548	0.170	10.000	19.000
child	83	1.458	1.000	1.400	1.151	0.126	0.000	4.000
age	83	35.663	36.000	35.573	2.216	0.243	32.000	42.000
rifprob	83	2.771	2.000	2.680	1.648	0.181	1.000	7.000
spousatt	83	6.277	7.000	6.373	1.364	0.150	2.000	8.000
carint	83	1.3976	1.0000	1.3333	0.6036	0.0663	1.0000	3.0000
civjob	83	4.012	4.000	4.013	1.642	0.180	1.000	7.000
likessb	83	1.663	1.000	1.507	1.161	0.127	1.000	6.000
likevsi	83	2.301	2.000	2.173	1.536	0.169	1.000	7.000
likeerp	83	4.916	5.000	5.013	2.007	0.220	1.000	7.000
rankssb	83	1.1928	1.0000	1.1200	0.4803	0.0527	1.0000	3.0000
rankvsi	83	1.9398	2.0000	1.9333	0.3935	0.0432	1.0000	3.0000
rankerp	83	2.8554	3.0000	2.9467	0.4971	0.0546	1.0000	3.0000
medical	83	6.120	7.000	6.320	1.426	0.157	1.000	7.000
comm_exc	83	4.735	5.000	4.813	1.747	0.192	1.000	7.000
jobleave	83	4.470	4.000	4.520	1.692	0.186	1.000	7.000
famhouse	83	3.120	3.000	3.027	1.922	0.211	1.000	7.000
sepcouns	83	2.976	3.000	2.893	1.834	0.201	1.000	7.000
emplasst	83	3.735	4.000	3.707	1.970	0.216	1.000	7.000

SUMMARY OF VARIABLES

Variable	Description
YRSACDU	Tenure (years active duty service)
CHILD	Number of children
AGE	Age (in years)
RIFPROB	Probability of reduction in force
SPOUSATT	Attitude of spouse toward Navy career
CARINT	Career intent
CIVJOB	Perceived ease of finding civilian job
LIKESSB	Likelihood of accepting SSB
LIKEVSI	Likelihood of accepting VSI
LIKEERP	Likelihood of accepting 15-yr retirement
RANKSSB	Rank of likelihood of accepting SSB
RANKVSI	Rank of likelihood of accepting VSI
RANKERP	Rank of likelihood of accepting 15-yr ret.
MEDICAL	Medical/health care benefit
COMM_EXC	Commissary/exchange benefit
JOBLEAVE	Permissive job hunting leave
FAMHOUSE	Use of military family housing
SEPCOUNS	Pre-separation counseling
EMPLASST	Employment assistance program
MARSTAT	Marital status
DESIG	Designator
SEX	Sex
AVG_LIKE	Average likelihood of accepting incentive

FREQUENCY DISTRIBUTIONS

yrscdu	COUNT	CUMCNT	PERCENT	CUMPCT
10	5	5	6.02	6.02
11	21	26	25.30	31.33
12	19	45	22.89	54.22
13	21	66	25.30	79.52
14	7	76	12.05	91.57
15	5	81	6.02	97.59
16	1	82	1.20	98.80
19	1	83	1.20	100.00
N=	83			

marstat	COUNT	CUMCNT	PERCENT	CUMPCT
1	74	74	89.16	89.16
4	2	76	2.41	91.57
5	7	83	8.43	100.00
N=	83			

child	COUNT	CUMCNT	PERCENT	CUMPCT
0	21	21	25.30	25.30
1	22	43	26.51	51.81
2	25	68	30.12	81.93
3	11	79	13.25	95.18
4	4	83	4.82	100.00
N=	83			

sex	COUNT	CUMCNT	PERCENT	CUMPCT
1	72	72	86.75	86.75
2	11	83	13.25	100.00
N=	83			

age	COUNT	CUMCNT	PERCENT	CUMPCT
32	3	3	3.61	3.61
33	14	17	16.87	20.48
34	11	28	13.25	33.73
35	13	41	15.66	49.40
36	14	55	16.87	66.27
37	11	66	13.25	79.52
38	8	74	9.64	89.16
39	5	79	6.02	95.18
40	2	81	2.41	97.59
41	1	82	1.20	98.80
42	1	83	1.20	100.00
N=	83			

rifprob	COUNT	CUMCNT	PERCENT	CUMPCT
1	21	21	25.30	25.30
2	27	48	32.53	57.83
3	9	57	10.84	68.67
4	10	67	12.05	80.72
5	9	76	10.84	91.57
6	6	82	7.23	98.80
7	1	83	1.20	100.00
N=	83			

desig	COUNT	CUMCNT	PERCENT	CUMPCT
1100	8	8	9.64	9.64
1107	1	9	1.20	10.84
1110	4	13	4.82	15.66
1117	2	15	2.41	18.07
1120	8	23	9.64	27.71
1140	1	24	1.20	28.92
1300	1	25	1.20	30.12
1310	7	32	8.43	38.55
1317	1	33	1.20	39.76
1320	5	38	6.02	45.78
1327	3	41	3.61	49.40
1440	2	43	2.41	51.81
1460	14	57	16.87	68.67
1510	4	61	4.82	73.49
1520	2	63	2.41	75.90
1610	2	65	2.41	78.31
1630	1	66	1.20	79.52
1800	4	70	4.82	84.34

desig	COUNT	CUMCNT	PERCENT	CUMPCT
2900	1	71	1.20	85.54
3100	10	81	12.05	97.59
5100	2	83	2.41	100.00
N=	83			

spousatt	COUNT	CUMCNT	PERCENT	CUMPCT
2	1	1	1.20	1.20
3	4	5	4.82	6.02
4	7	12	8.43	14.46
5	4	16	4.82	19.28
6	19	35	22.89	42.17
7	39	74	46.99	89.16
8	9	83	10.84	100.00
N=	83			

carint	COUNT	CUMCNT	PERCENT	CUMPCT
1	55	55	66.27	66.27
2	23	78	27.71	93.98
3	5	83	6.02	100.00
N=	83			

civjob	COUNT	CUMCNT	PERCENT	CUMPCT
1	9	9	10.84	10.84
2	5	14	6.02	16.87
3	16	30	19.28	36.14
4	20	50	24.10	60.24
5	16	66	19.28	79.52
6	13	79	15.66	95.18
7	4	83	4.82	100.00
N=	83			

likessb	COUNT	CUMCNT	PERCENT	CUMPCT
1	55	55	66.27	66.27
2	13	68	15.66	81.93
3	8	76	9.64	91.57
4	4	80	4.82	96.39
5	1	81	1.20	97.59
6	2	83	2.41	100.00
N=	83			

likevsi	COUNT	CUMCNT	PERCENT	CUMPCT
1	36	36	43.37	43.37
2	20	56	24.10	67.47
3	6	62	7.23	74.70
4	12	74	14.46	89.16
5	6	80	7.23	96.39
6	2	82	2.41	98.80
7	1	83	1.20	100.00
N=	83			

likeerp	COUNT	CUMCNT	PERCENT	CUMPCT
1	9	9	10.84	10.84
2	5	14	6.02	16.87
3	2	16	2.41	19.28
4	17	33	20.48	39.76
5	11	44	13.25	53.01
6	13	57	15.66	68.67
7	26	83	31.33	100.00
N=	83			

rankssb	COUNT	CUMCNT	PERCENT	CUMPCT
1	70	70	84.34	84.34
2	10	80	12.05	96.39
3	3	83	3.61	100.00
N=	83			

rankvsi	COUNT	CUMCNT	PERCENT	CUMPCT
1	9	9	10.84	10.84
2	70	79	84.34	95.18
3	4	83	4.82	100.00
N=	83			

rankerp	COUNT	CUMCNT	PERCENT	CUMPCT
1	5	5	6.02	6.02
2	2	7	2.41	8.43
3	76	83	91.57	100.00
N=	83			

medical	COUNT	CUMCNT	PERCENT	CUMPCT
1	3	3	3.61	3.61
3	1	4	1.20	4.82
4	6	10	7.23	12.05
5	10	20	12.05	24.10
6	13	33	15.66	39.76
7	50	83	60.24	100.00
N=	83			

comm_exc	COUNT	CUMCNT	PERCENT	CUMPCT
1	6	6	7.23	7.23
2	5	11	6.02	13.25
3	5	16	6.02	19.28
4	19	35	22.89	42.17
5	17	52	20.48	62.65
6	16	68	19.28	81.93
7	15	83	18.07	100.00
N=	83			

jobleave	COUNT	CUMCNT	PERCENT	CUMPCT
1	7	7	8.43	8.43
2	5	12	6.02	14.46
3	4	16	4.82	19.28
4	29	45	34.94	54.22
5	12	57	14.46	68.67
6	16	73	19.28	87.95
7	10	83	12.05	100.00
N=	83			

famhouse	COUNT	CUMCNT	PERCENT	CUMPCT
1	24	24	28.92	28.92
2	14	38	16.87	45.78
3	9	47	10.84	56.63
4	19	66	22.89	79.52
5	4	70	4.82	84.34
6	7	77	8.43	92.77
7	6	83	7.23	100.00
N=	83			

sepcouns	COUNT	CUMCNT	PERCENT	CUMPCT
1	30	30	36.14	36.14
2	8	38	9.64	45.78
3	7	45	8.43	54.22
4	21	66	25.30	79.52
5	8	74	9.64	89.16
6	7	81	8.43	97.59
7	2	83	2.41	100.00
N=	83			

emphasst	COUNT	CUMCNT	PERCENT	CUMPCT
1	21	21	25.30	25.30
2	4	25	4.82	30.12
3	5	30	6.02	36.14
4	21	51	25.30	61.45
5	18	69	21.69	83.13
6	6	75	7.23	90.36
7	8	83	9.64	100.00
N=	83			

HISTOGRAMS

Histogram of yrsacdu N = 83

Midpoint	Count	
10	5	*****
11	21	*****
12	19	*****
13	21	*****
14	10	*****
15	5	*****
16	1	*
17	0	
18	0	
19	1	*

Histogram of marstat N = 83
Each * represents 2 obs.

Midpoint	Count	
1	74	*****
2	0	
3	0	
4	2	*
5	7	****

Histogram of age N = 83

Midpoint	Count	
32	3	***
33	14	*****
34	11	*****
35	13	*****
36	14	*****
37	11	*****
38	8	*****
39	5	*****
40	2	**
41	1	*
42	1	*

Histogram of sex N = 83
Each * represents 2 obs

Midpoint	Count	
1	72	*****
2	11	*****

Histogram of child N = 83

Midpoint	Count	
0	21	*****
1	22	*****
2	25	*****
3	11	*****
4	4	****

Histogram of rifprob N = 83

Midpoint	Count	
1	21	*****
2	27	*****
3	9	*****
4	10	*****
5	9	*****
6	6	*****
7	1	*

Histogram of spousatt N = 83

Midpoint	Count	
2	1	*
3	4	****
4	7	*****
5	4	****
6	19	*****
7	39	*****
8	9	*****

Histogram of carint N = 83
Each * represents 2 obs.

Midpoint	Count	
1	55	*****
2	23	*****
3	5	***

Histogram of civjob N = 83

Midpoint	Count	
1	9	*****
2	5	*****
3	16	*****
4	20	*****
5	16	*****
6	13	*****
7	4	****

Histogram of likessb N = 83
Each * represents 2 obs.

Midpoint	Count	
1	55	*****
2	13	*****
3	8	****
4	4	**
5	1	*
6	2	*

Histogram of likevs1 N = 83

Midpoint	Count	
1	36	*****
2	20	*****
3	6	*****
4	12	*****
5	6	*****
6	2	**
7	1	*

Histogram of likeerp N = 83

Midpoint	Count	
1	9	*****
2	5	*****
3	2	**
4	17	*****
5	11	*****
6	13	*****
7	26	*****

Histogram of rankssb N = 83

Each * represents 2 obs

Midpoint	Count	
1	70	*****
2	10	*****
3	3	**

Histogram of rankvsi N = 83

Each * represents 2 obs.

Midpoint	Count	
1	9	*****
2	70	*****
3	4	**

Histogram of rankerp N = 83

Each * represents 2 obs.

Midpoint	Count	
1	5	***
2	2	*
3	76	*****

Histogram of medical N = 83

Midpoint	Count	
1	3	***
2	0	
3	1	*
4	6	*****
5	10	*****
6	13	*****
7	50	*****

Histogram of comm_exc N = 83

Midpoint	Count	
1	6	*****
2	5	*****
3	5	*****
4	19	*****
5	17	*****
6	16	*****
7	15	*****

Histogram of jobleave N = 83

Midpoint	Count	
1	7	*****
2	5	*****
3	4	****
4	29	*****
5	12	*****
6	16	*****
7	10	*****

Histogram of famhouse N = 83

Midpoint	Count	
1	24	*****
2	14	*****
3	9	*****
4	19	*****
5	4	****
6	7	*****
7	6	*****

Histogram of sepcouns N = 83

Midpoint	Count	
1	30	*****
2	8	*****
3	7	*****
4	21	*****
5	8	*****
6	7	*****
7	2	**

Histogram of emplasst N = 83

Midpoint	Count	
1	21	*****
2	4	****
3	5	*****
4	21	*****
5	18	*****
6	6	*****
7	8	*****

Pearson Correlation Coefficients

	yrsadu	child	age	rifprob	spousatt	carint	civjob	likessb
child	0.134							
age	0.452	0.181						
rifprob	-0.118	-0.105	-0.015					
spousatt	-0.040	-0.206	-0.275	-0.053				
carint	-0.174	-0.055	-0.063	-0.079	-0.076			
civjob	0.017	-0.268	-0.143	-0.103	-0.165	0.007		
likessb	0.008	0.144	0.064	-0.003	-0.117	0.124	0.041	
likevsi	-0.127	0.204	0.019	-0.006	-0.064	0.277	-0.001	0.413
likeerp	-0.188	0.181	-0.135	0.175	-0.094	0.068	0.011	0.281
medical	-0.074	0.011	-0.126	-0.175	0.221	-0.042	-0.063	-0.174
comm_exc	-0.029	-0.036	-0.049	-0.144	0.098	0.171	0.073	-0.021
jobleave	-0.139	0.107	-0.104	-0.088	-0.168	0.042	0.077	0.063
famhouse	-0.194	0.157	-0.065	-0.061	0.015	-0.031	-0.082	0.040
sepcouns	-0.052	-0.035	-0.056	-0.095	0.125	-0.013	-0.125	0.008
emplasst	-0.070	0.060	-0.057	-0.139	0.127	0.028	-0.225	0.067
avg-like	-0.156	0.232	-0.046	0.093	-0.116	0.195	0.019	0.650

	likevsi	likeerp	medical	comm_exc	jobleave	famhouse	sepcouns	emplasst
likeerp	0.432							
medical	-0.100	-0.239						
comm_exc	-0.038	-0.163	0.434					
jobleave	0.114	0.015	0.320	0.373				
famhouse	0.041	-0.146	0.239	0.358	0.421			
sepcouns	0.124	-0.173	0.248	0.249	0.326	0.444		
emplasst	0.136	-0.157	0.203	0.146	0.228	0.382	0.734	
avg-like	0.794	0.825	-0.230	-0.113	0.077	-0.050	-0.041	-0.008

Spearman Rank Correlation Coefficients

	r-yrsadu	r-child	r-age	r-rifprb	r-spsatt	r-carint	r-civjob	r-likessb
r-child	0.128							
r-age	0.478	0.166						
r-rifprb	-0.151	-0.101	-0.013					
r-spsatt	-0.118	-0.274	-0.243	0.000				
r-carint	-0.162	-0.045	-0.086	-0.075	-0.055			
r-civjob	0.031	-0.263	-0.139	-0.160	-0.109	-0.023		
r-likessb	0.025	0.228	0.049	0.071	-0.072	0.090	-0.023	
r-likevsi	-0.159	0.195	-0.090	0.050	-0.070	0.289	-0.033	0.544
r-likeerp	-0.162	0.197	-0.114	0.141	-0.069	0.029	0.041	0.230
r-medici	-0.094	-0.029	-0.073	-0.158	0.278	-0.055	-0.060	-0.126
r-comexc	-0.020	-0.070	0.010	-0.183	0.101	0.173	0.029	-0.052
r-joblv	-0.095	0.100	-0.107	-0.100	-0.126	0.012	0.094	0.102
r-famhsg	-0.183	0.134	-0.114	-0.034	0.047	-0.027	-0.129	0.073
r-sepcsl	-0.068	-0.049	-0.060	-0.062	0.089	0.004	-0.136	0.072
r-empast	-0.131	0.039	-0.110	-0.113	0.072	0.030	-0.220	0.098
r-avglik	-0.144	0.229	-0.075	0.159	-0.064	0.128	0.012	0.631

	r-likevsi	r-likeerp	r-medici	r-comexc	r-joblv	r-famhsg	r-sepcsl	r-empast
r-likeerp	0.367							
r-medici	-0.117	-0.212						
r-comexc	-0.060	-0.180	0.336					
r-joblv	0.160	0.078	0.205	0.320				
r-famhsg	0.088	-0.143	0.285	0.328	0.381			
r-sepcsl	0.191	-0.219	0.222	0.187	0.288	0.459		
r-empast	0.141	-0.165	0.215	0.094	0.224	0.374	0.716	
r-avglik	0.732	0.829	-0.220	-0.162	0.137	-0.061	-0.035	-0.023

REGRESSION ANALYSIS RESULTS

Best Subsets Regression of likeerp

					y	r	p	s	c	j	f	s	e
					r	i	o	c	m	o	a	e	m
					s	u	a	i	d	m	b	m	p
					a	h	p	s	r	v	i	e	o
					c	i	a	r	a	j	c	x	u
					d	l	g	o	t	n	o	a	s
					u	d	e	b	t	t	b	l	c
Vars	R-sq	Adj R-sq	C-p	s									
1	5.7	4.6	5.0	1.9610								X	
1	3.5	2.4	6.9	1.9836	X								
2	10.0	7.7	3.2	1.9281	X						X		
2	9.1	6.8	4.0	1.9379		X					X		
3	14.5	11.3	1.1	1.8908	X	X					X		
3	13.2	9.9	2.3	1.9050		X	X				X		
4	17.6	13.3	0.4	1.8688	X	X					X		
4	16.4	12.1	1.5	1.8819	X	X					X		X
5	19.1	13.8	1.1	1.8636	X	X	X				X		
5	18.8	13.6	1.3	1.8664	X	X					X	X	
6	20.4	14.1	1.9	1.8600	X	X	X				X	X	
6	20.4	14.1	1.9	1.8607	X	X	X	X			X	X	
7	21.6	14.3	2.8	1.8583	X	X	X	X			X	X	
7	21.0	13.6	3.4	1.8657	X	X	X				X	X	X
8	22.2	13.8	4.3	1.8636	X	X	X	X			X	X	X
8	22.0	13.5	4.5	1.8665	X	X	X	X			X	X	X
9	22.3	12.8	6.2	1.8749	X	X	X	X	X		X	X	X
9	22.3	12.7	6.2	1.8756	X	X	X	X			X	X	X
10	22.4	11.6	8.1	1.8871	X	X	X	X	X		X	X	X
10	22.4	11.6	8.1	1.8872	X	X	X	X	X	X		X	X
11	22.5	10.5	10.1	1.8995	X	X	X	X	X	X	X	X	X
11	22.4	10.4	10.1	1.8999	X	X	X	X	X	X	X	X	X
12	22.5	9.2	12.0	1.9123	X	X	X	X	X	X	X	X	X
12	22.5	9.2	12.1	1.9130	X	X	X	X	X	X	X	X	X
13	22.5	7.9	14.0	1.9260	X	X	X	X	X	X	X	X	X

The regression equation is
likeerp = 13.0 - 0.252 yrsacdu + 0.465 child - 0.113 age + 0.164 rifprob
- 0.332 medical + 0.152 jobleave - 0.233 famhouse

Predictor	Coef	Stdev	t-ratio	p
Constant	13.029	3.698	3.52	0.001
yrscadu	-0.2524	0.1535	-1.64	0.104
child	0.4655	0.1860	2.50	0.014
age	-0.1129	0.1057	-1.07	0.289
rifprob	0.1636	0.1283	1.27	0.206
medical	-0.3324	0.1558	-2.13	0.036
jobleave	0.1518	0.1388	1.09	0.278
famhouse	-0.2328	0.1215	-1.92	0.059

$s = 1.858$ $R\text{-sq} = 21.6\%$ $R\text{-sq(adj)} = 14.3\%$

Analysis of Variance

SOURCE	DF	SS	MS	F	p
Regression	7	71.412	10.202	2.95	0.009
Error	75	258.998	3.453		
Total	82	330.409			

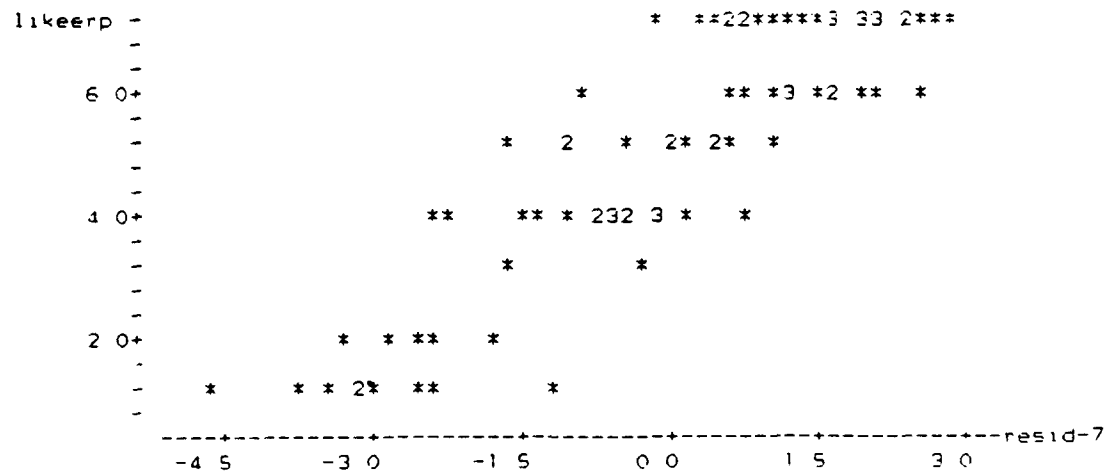
SOURCE	DF	SEQ SS
yrnsacdu	1	11 714
child	1	14 239
age	1	2 408
rifprob	1	10 489
medical	1	19 163
jobleave	1	0 726
famhouse	1	12 674

Unusual Observations

Obs	yrscdu	likeerp	Fit	Stdev Fit	Residual	St Resid
2	19 0	1 000	4 186	0 970	-3 186	-2 01R
21	12 0	1 000	5 664	0 419	-4 664	-2 58R
32	13 0	1 000	4 780	0 457	-3 780	-2 10R

R denotes an obs with a large st resid

plot c14 c99



ANALYSIS OF VARIANCE

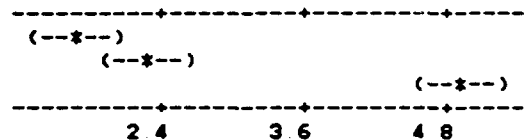
aovoneway c12-c14

ANALYSIS OF VARIANCE			
SOURCE	DF	SS	MS
FACTOR	2	493.16	246.58
ERROR	246	634.43	2.58
TOTAL	248	1127.60	

	F	p
	95.61	0.000

INDIVIDUAL 95 PCT CI'S FOR MEAN
BASED ON POOLED STDEV

LEVEL	N	MEAN	STDEV
likessb	83	1.663	1.161
likevsi	83	2.301	1.536
likeerp	83	4.916	2.007



POOLED STDEV = 1.606
MTB >

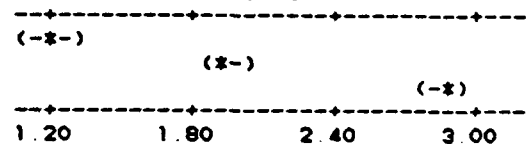
aovoneway c15-c17

ANALYSIS OF VARIANCE			
SOURCE	DF	SS	MS
FACTOR	2	115.116	57.558
ERROR	246	51.880	0.211
TOTAL	248	166.996	

	F	p
	272.93	0.000

INDIVIDUAL 95 PCT CI'S FOR MEAN
BASED ON POOLED STDEV

LEVEL	N	MEAN	STDEV
rankssb	83	1.1928	0.4803
rankvsi	83	1.9398	0.3935
rankerp	83	2.8554	0.4971



POOLED STDEV = 0.4592
MTB >

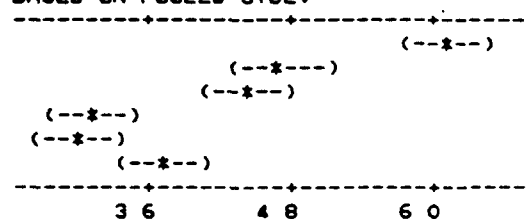
aovoneway c18-c23

ANALYSIS OF VARIANCE			
SOURCE	DF	SS	MS
FACTOR	5	574.94	114.99
ERROR	492	1548.55	3.15
TOTAL	497	2123.49	

	F	p
	36.53	0.000

INDIVIDUAL 95 PCT CI'S FOR MEAN
BASED ON POOLED STDEV

LEVEL	N	MEAN	STDEV
medical	83	6.120	1.426
comm_exc	83	4.735	1.747
jobleave	83	4.470	1.692
famhouse	83	3.120	1.922
sepcouns	83	2.976	1.834
emplasst	83	3.735	1.970



POOLED STDEV = 1.774

APPENDIX C

SUMMARY OF SUBJECTIVE RESPONSES

This appendix contains a summary of responses to survey Item 14 asking respondents to provide an explanation for their ranking of the three separation incentive plans, particularly the one they were most likely to accept.

SUMMARY OF SUBJECTIVE RESPONSES

Choice is simple; 15 year retirement includes highest PV, COLA adjustments and medical insurance. Inflation will murder VSI. Health coverage critical to family's well being until new employer covers medical costs. Commissary benefits outweigh exchange privileges which I find next to worthless in CONUS. (003)

Monthly income and traditional retirement benefits were the principal reasons I stayed in the military. I will not voluntarily leave without them. I have invested 16 years in a plan that will meet the medical/etc. needs of my family for life. I won't give it up. (004)

More interested in ensuring that there would be some type of annuity vice lump sum. With no debts, lump sum not as urgent. (005)

I feel that after at least 15 years of service a member should be compensated for life because of the sacrifices made while in the service. (006)

Same benefits at 15 years that would've received at 20--can retire early and move on to second career. I've done all I wanted to do in the Navy. Time to move on. (007)

Only 15 year retirement provides all benefits previously assumed (commissary, etc.). SSB allows my control of my financial investment of lump sum. VSI not good due to impact of unknown inflation. (008)

The 15 year retirement would be most desirable because it includes all benefits (medical, exchange, etc) that were "promised" upon my original commissioning. Any reduction in these benefits would not be acceptable. (009)

Economics. (010)

15 year plan: I don't just want the money, I want all the privileges that go with retirement too (golf courses, commissary, rec activities, etc). Also money for rest of life is OK too. VSI: good \$ for 20+ years is next best. SSB: stupid option. (012)

At the 12 year point I find all of them undesirable. To pick the lesser of 3 evils, the 15 year retirement most closely resembles the 20 year benefits I would be eligible 8 years from now (013)

Dollars and benefits--15 year retirement best in both areas.
(014)

Inflation adjusted annually is best. (015)

Long term security is of great importance as are medical benefits. (016)

The early retirement is by far the best deal because of payments for life and commissary/exchange privileges. This is especially true considering the payments are nearly the same as VSI but adjusted for inflation and continue for life. VSI is second best choice because of guaranteed income for many years. I'd choose lump sum last. It would have to be higher, at least twice, to be a consideration. I like the security of a steady paycheck. I'd only consider any of the plans if faced with prospect of being involuntarily separated; I enjoy the Navy and hope to stay for 20 year retirement. I'd only consider 15 year retirement if I failed to be selected for OS or didn't like what I was doing at the time. (017)

Early retirement preferred for benefits; other 2 a tossup.
(018)

A substantial part of our compensation is medical and privileges. The 15 year retirement is the only plan that addresses them beyond a kiss goodbye, and is the only one indexed to inflation. (019)

First choice would be 15 year retirement due to full benefits and adjusted for inflation; SSB would be second to invest in real estate (no debts to pay off); VSI last choice as not adjusted for inflation. (020)

Tax benefits of early retirement plan. (021)

I want a real retirement plan. If the 15 year retirement offered 37.5% of base pay I'd take it, but nothing less! (023)

15 year retirement that would include all benefits of regular retirement is deciding factor, plus annuity that would continue for life. The other 2 are equally undesirable due to lack of benefits and acceptance would hinge on economy and tax laws at the time. The SSB being fully taxable in that year really diminishes its desirability. (024)

15 year retirement has most benefits over longer period of time (life) and health care. (025)

15 year retirement: benefits last for life. VSI over SSB due to tax consequences. (027)

None of the plans are as good as 20 year retirement. 15-year retirement is only real option in terms of monetary worth and benefits. Only advantage is getting to civilian employment at an earlier age (late 30's vice mid-40's) (028)

The 15 year retirement with full benefits is no lose situation if you're confident of your ability to find a job. Either of the other options will result in a big loss particularly when considering health care costs. (029)

Tax burden of SSB would be too great. The 15-year retirement sounds best (030)

I plan on living a long time. Early retirement would work best for me. SSB would be second since you're getting tomorrow's money today. VSI would just help pay the mortgage. It's short term. (031)

Want steady retirement income during periods of possible unemployment in post-Navy career (032)

15 year retirement best value, least taxes. (033)

15 year retirement is most acceptable because there's no moral justification to pursue a career unless there's motivation that one's country can return for the depth of service provided to the country. To serve for an extensive time (15-20 years) and not be recognized through retirement opportunities is an immoral justice. Should the economy be so bad as to need short order terminations of service, the 15 year retirement is the only option. If that's not an option, the lump sum is next best. This would allow an individual to recover his life, and establish a life leading to reasonable retirement, though short of original expectations (035)

One of the biggest advantages of a "full" career is the retirement benefits. 15 year retirement comes closest to this. Otherwise upon separation I'd work elsewhere immediately; hence a lump sum payment would not be required. VSI is better financially than SSB. (036)

15 year early retirement provides additional benefits not covered under the other plans. Retirement and benefits are probably the biggest reason I have not conducted job searches during my career. (037)

Benefits and paycheck till death do us part explain the attraction to 15 year early retirement. VSI not bad cash wise but no benefits accompany plan. Best plan is to retire when I stop being useful to the Navy, sometime after 20 years. SSB lousy for senior people, probably good for junior guys. (038)

Lump sum is taxable, lose medical/commissary too early. VSI annual payments no adjusted for inflation, no benefits. 15 year retirement has annual payments adjusted for inflation and continue for life; full traditional retirement benefits (039)

I joined and remained in the Navy for a monthly retirement for life. Any other arrangement is not acceptable. (040)

Over a lifetime, the 15-year plan nets the largest amount of money. (041)

Low rank of SSB due to tax liability. (042)

Income tax on SSB would be significant since have to claim entire amount in one year. 15 year retirement most desirable. (043)

15 year retirement: most long term benefits. VSI next largest benefit. SSB: foolish to even offer. (044)

VSI will only cover until I'm 65 while early retirement will go beyond. Lump sum will only cover 1 year and with 3 children, that may be a gamble to find a satisfactory profession in that time. (045)

The most important thing is maintaining commissary/exchange and medical benefits that the 15-year retirement offers. Without that option, if forced to choose, I'd take VSI because I'd lose such a large chunk of SSB to taxes. VSI would be a nice addition to the pay/benefits I think I could command in the private sector. (046)

15 year plan gives best benefits for life, not only medical care, commissary, etc. but pay. (047)

SSB is not much, maybe a downpayment on a house. VSI is steady income until a better job can be found. 15 year retirement is money forever. (048)

I want a 20 year retirement. If I can't get that, then the 15 year early retirement; if not that, then VSI because it keeps income coming in. (049)

15 year retirement gives benefits of retirement plus decent monthly stipend, not enough to live on but a good start. The SSB is enticing particularly if assured of similarly salaried job. Although VSI gives nearly same monthly amount as 15 year retirement, only for 30 years and no retirement benefits. (050)

Prefer 15 year retirement due to continued benefits and COLA. (051)

I could make better use of SSB immediately upon leaving Navy and preparing for new career. The 15-year retirement is my second choice over VSI. (052)

15 year retirement same as regular retirement but less money. SSB lump sum too large tax bite. (053)

15 year retirement offers greatest financial return. (054)

SSB has least total value, which 15 year retirement has potential for highest value overall, plus traditional benefits and inflation adjustment. The only way you'd make out better with SSB is if you dropped dead shortly after leaving service (or rather your benefactors would make out). (055)

15 year retirement a pretty good deal, since still able to pursue other career with lifetime bennies and payments. (056)

SSB: why should I be attracted to same benefits package awarded to those members involuntarily separated? Doesn't adequately compensate those who have worked to be "pack +". VSI: Only marginally more attractive than SSB, but without inflation protection. Take taxes out of each payment and ignore inflation--recipe for financial dependency. 15 year retirement: Freedom to pursue a second career earlier somewhat compensates for deficiencies of retainer. (057)

Part of my decision to join and remain in the Navy, go through deployments, being stationed on small islands, etc was the benefit package that went with staying at least 20 years. I made the decision to stay, and I expect to get those benefits. The lump sum payment is totally unacceptable. The VSI is a better plan, but doesn't address the key benefit issues. (059)

The monthly payments with continued benefits are what I'm working for and what I expect when I do retire. (060)

15 year retirement only plan to give medical, commissary, etc, plus closest monetarily to 20 year plan. In reality I think all three options are pretty poor! (061)

15 year retirement better than VSI due to benefits plus payments for life vice fixed period of time. SSB is least attractive because less PV when compared to VSI. I don't need a lump sum. (062)

With only 5 more years to a 20 year retirement, I'd have to have a good job prospect in order to get out first. (063)

SSB: one shot deal; should be tax free or taxed differently
VSI: No benefits is big drawback, should be indexed to inflation over duration. 15 year retirement: most fair of the three. Health care is big issue. Would take it only if I thought I wasn't competitive for D-5. (064)

The benefits of medical, commissary/exchange, etc. are big plus. (065)

The money is one thing but continued medical benefits are really important--also COLA's. Additionally, will need long term retirement for after age 65; that's why 15 year retirement is best option. (066)

Too much tax bite from lump sum payment. (067)

The annual payment under VSI and 15 year retirement nearly the same, but VSI runs out whereas retirement is for life. Also provides benefits VSI doesn't. 15 year retirement superior in all respects to other two choices. (068)

15 year retirement most beneficial; VSI slightly less. SSB only acceptable as alternative to having no plan. (069)

Monetary benefit of 15 year retirement clearly better. (070)

Retirement plan most secure of 3 plans while VSI provides less money and no benefits. SSB is worst of all--no benefits, massive tax debt and no inflation protection. (071)

SSB: taxes eat away benefit. VSI: one of military's selling points is lifetime benefits; right when I reach retirement age, VSI benefits stop! (072)

15 year retirement gives permanent steady stream of income and gives full benefits. (073)

Considering the time I've invested in the Navy, I want the security of a retirement plan. (074)

SSB: taxes, little financial security in outyears. VSI: no retirement benefits. 15 year retirement: benefits plus guaranteed income for life. (075)

I want full retirement benefits. Service in critical areas in order to get 5 years additional retirement credit (to bring up to 20 years) would be good. (076)

15 year retirement plan very similar to what I joined service for. Full privileges are very important. (077)

15 year retirement pay and benefits continue for life. (078)

I intend to receive lifetime annuity before moving on, no matter how small annuity is. (079)

Would most likely accept early retirement--it's worth more. Second is VSI because in long run will benefit one more than SSB. (080)

Total value is best with early retirement. Those who take lump sum are economically foolish. (082)

Would like to complete 20 year naval career and get annuity and benefits package. 15 year retirement comes closest. (083)

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